1 <u>What is Claimed</u>:

2

3   1.   A process for the production of engineering specifications from

4 an architectural drawing comprising the steps of:

5   •   storing architectural assets in an asset database and each

6 asset being associated with at least functional characteristics;

7   •   identifying one or more architectural assets from a raw CAD file

8 of drawing elements, said assets having correspondence to those stored in the

9 asset database;

10   •   retrieving criteria from at least one database which correspond

11 to the functional characteristics of the one or more identified assets;

12   •   applying the criteria to the identified assets for establishing

13 detailed engineering specifications;

14   •   generating detailed drawing elements corresponding to the

15 detailed engineering specifications and writing the detailed engineering

16 specifications and drawing elements to one or more output CAD files.

17   2.   The process of claim 1 further comprising:

18   •   storing compliance criteria and preferred criteria which

19 correspond to the functional characteristics of the one or more identified assets; and

20   •   receiving additional preferred criteria which augments the

21 stored preferred criteria.

22   3.   The process of claim 2 further comprising the steps of:

23   •   applying the additional preferred criteria to the identified assets

24 for establishing detailed engineering specifications; and

1   •   storing the additional preferred criteria in at least one preferred

2 criteria database.

3   4.   The process of claim 3 further comprising the steps of:

4   •   creating two or more preferred criteria databases;

5   •   selecting one or more of the two or more preferred criteria

6 databases; and

7   •   retrieving preferred criteria from the one or more selected

8 preferred criteria database in which are stored preferred criteria corresponding to

9 one or more of the identified assets; and

10   •   applying the selected preferred criteria to the identified assets

11 for establishing detailed engineering specifications.

12   5.   The process of claim 1 further comprising:

13   •   creating two or more compliance criteria databases each of

14 which stores criteria specific to a different jurisdiction;

15   •   selecting one or more of the two or more compliance criteria

16 databases dependent upon the jurisdiction applicable to the raw CAD drawing; and

17   •   retrieving compliance criteria from the one or more selected

18 preferred criteria database corresponding to one or more of the identified assets;

19 and

20   •   applying the selected compliance criteria to the identified

21 assets for establishing detailed engineering specifications.

22

23

1   6.   A process for the production of engineering specifications from

2 an architectural drawing comprising the steps of:

3   •   reading one or more raw CAD files containing at least drawing

4 elements forming one or more architectural assets having at least functional

5 characteristics;

6   •   parsing and labeling the one or more assets found within the

7 one or more raw CAD files which have correspondence to labeled assets stored in

8 an architectural assets database;

9   •   retrieving compliance criteria from at least one compliance

10 criteria database in which are stored compliance criteria corresponding to the

11 functional characteristics of one or more of the labeled assets;

12   •   retrieving preferred criteria from at least one preferred criteria

13 database in which are stored preferred criteria corresponding to the functional

14 characteristics of one or more of the labeled assets;

15   •   applying the compliance and preferred criteria to the labeled

16 assets for establishing detailed engineering specifications;

17   •   generating detailed drawing elements corresponding to the

18 detailed engineering specifications; and

19   •   writing at least the generated detailed drawing elements to one

20 or more output CAD files.

21   7.   The process of claim 6 further comprising the step of:

22   •   writing one or more reports containing detailed engineering

23 specifications.

8.   The process of claim 6 further comprising the step of:

•   receiving additional preferred criteria corresponding to the functional characteristics of one or more of the labeled assets.

9.   The process of claim 8 wherein the additional preferred criteria received are for labeled assets for which there are no previously stored preferred criteria.

10.   The process of claim 6 further comprising the steps of:

•   receiving additional preferred criteria corresponding to the functional characteristics of one or more of the labeled assets;

•   applying the additional preferred criteria to the labeled assets for establishing detailed engineering specifications; and

•   storing the additional preferred criteria in at least one preferred criteria database.

11.   The process of claim 10 further comprising the steps of:

•   creating two or more preferred criteria databases;

•   selecting one or more of the two or more preferred criteria databases; and

•   retrieving preferred criteria from the one or more selected preferred criteria database in which are stored preferred criteria corresponding to the functional characteristics of one or more of the labeled assets; and

•   applying the selected preferred criteria to the labeled assets for establishing detailed engineering specifications.

1   12.   The process of claim 10 further comprising:

2   • creating two or more compliance criteria databases each of

3 which stores criteria specific to a different jurisdiction;

4   • selecting one or more of the two or more compliance criteria

5 databases dependent upon the jurisdiction applicable to the raw CAD drawing; and

6   • retrieving compliance criteria from the one or more selected

7 preferred criteria database corresponding to one or more of the identified assets;

8 and

9   • applying the selected compliance criteria to the identified

10 assets for establishing detailed engineering specifications.

11   13.   The process of claim 7 wherein the reports include schedules.

12   14.   The process of claim 7 wherein the reports include bills of

13 materials.

14   15.   The process of claim 6 further comprising the step of:

15   • associating each detailed engineering specification with a

16 unique detail identifier; and

17   • writing at least the generated detailed drawing elements with

18 their associated unique detail identifiers to the one or more output CAD files.

19   16.   The process of claim 6 wherein at least some of the one or

20 more CAD files contain drawing layers, the process further comprising the steps of:

21   • locating discrete architectural assets in different drawing layers;

22   • retrieving an asset identifier from one of the discrete drawing

23 layers and its coordinates associated therewith; and

1 • parsing the architectural assets by locating coordinates of

2 architectural assets in the one or more drawing layers and at coordinates

3 corresponding to the coordinates associated with the asset identifier.

4 17. The process of claim 16 further comprising the steps of:

5 • determining geometrical characteristics of the asset to which

6 the compliance criteria or preferred criteria apply.

7 18. The process of claim 17 wherein the geometrical characteristics

8 are at least area and dimensional.

9 19. The process of claim 6 wherein the CAD file is provided by a

10 known client, the process further comprising the steps of:

11 • maintaining an interactive network system and having at least

12 one client terminal;

13 • downloading the client's raw CAD files from the client's

14 terminal; and

15 • uploading detailed output CAD drawings to the client's terminal.

16 20. The process of claim 19 further comprising the steps of:

17 • maintaining one or more preferred criteria databases for the

18 known client;

19 • implementing a security and authentication process which

20 ensures that the known client's preferred criteria databases are only accessed by

21 the client.

22

23

1   21.   The process of claim 20 further comprising the steps:

2   •   providing the known client with an interface for specifying

3   additional preferred criteria corresponding to the functional characteristics of one or

4   more of the labeled assets; and

5   •   receiving additional preferred criteria;

6   •   storing the additional preferred criteria in one or more of the

7   known client's preferred criteria databases.

8

9

1   22.   Apparatus for producing engineering specifications from an

2   architectural drawing comprising:

3   •   a computer system having at least one client terminal;

4   •   means for reading one or more raw CAD files containing at

5   least drawing elements forming one or more architectural assets having at least

6   functional characteristics,

7   •   means for parsing and labeling the one or more assets found

8   within the one or more raw CAD files which have correspondence to the functional

9   characteristics of labeled assets stored in an architectural assets database;

10   •   means for retrieving compliance criteria from at least one

11   compliance criteria database in which are stored compliance criteria corresponding

12   to the functional characteristics of one or more of the labeled assets;

13   •   means for retrieving preferred criteria from at least one

14   preferred criteria database in which are stored preferred criteria corresponding to

15   the functional characteristics of one or more of the labeled assets;

16   •   means for applying the compliance and preferred criteria to the

17   labeled assets for establishing detailed engineering specifications;

18   •   means for generating detailed drawing elements corresponding

19   to the detailed engineering specifications; and

20   •   means for writing at least the generated detailed drawing

21   elements to one or more output CAD files.

22

1   23.   The apparatus of claim 22 further comprising

2   •   an interactive network system and having at least one client

3   terminal; and

4   •   a server for storing databases and having means for reading

5   raw CAD files, parsing the raw CAD files, retrieving compliance and preferred

6   criteria, generating detailed drawing elements, and writing detailed drawing

7   elements or output CAD files.

8

1   24.   Apparatus for producing engineering specifications from an

2 architectural drawing comprising:

3   •   a computer system and having at least one client terminal;

4   •   one or more databases; and

5   •   application program means for

6   •   reading and writing CAD files;

7   •   for parsing a raw CAD file for one or more architectural

8 assets having at least functional characteristics corresponding to

9 architectural assets stored in a database, and labeling same,

10   •   for retrieving compliance criteria and preferred criteria

11 from a database in which are stored criteria corresponding to the functional

12 characteristics of one or more of the labeled assets;

13   •   for applying the compliance and preferred criteria to the

14 labeled assets for establishing detailed engineering specifications;

15   •   for generating detailed drawing elements corresponding

16 to the detailed engineering specifications and writing to one or more output

17 CAD files.

18

19

1   25.   An article of manufacture comprising media embodying detailed

2   engineering specifications overlaid on an architectural drawing, said media being

3   created by a method comprising the steps of:

4   •   reading one or more raw CAD files containing at least drawing

5   elements forming one or more architectural assets having at least functional

6   characteristics;

7   •   parsing and labeling the one or more assets found within the

8   one or more raw CAD files which have correspondence to the functional

9   characteristics of labeled assets stored in an architectural assets database;

10   •   retrieving compliance criteria from at least one compliance

11   criteria database in which are stored compliance criteria corresponding to one or

12   more of the labeled assets;

13   •   retrieving preferred criteria from at least one preferred criteria

14   database in which are stored preferred criteria corresponding to one or more of the

15   labeled assets;

16   •   applying the compliance and preferred criteria to the labeled

17   assets for establishing detailed engineering specifications;

18   •   generating detailed drawing elements corresponding to the

19   detailed engineering specifications; and

20   •   writing at least the generated detailed drawing elements to one

21   or more output CAD files on said media.

22

1   26. The article of manufacture of claim 25 wherein the media is

2 readable by a computer.

3

4

1   27.   An article of manufacture comprising computer readable media

2   embodying instructions executable by a computer for producing detailed

3   engineering specifications from a digital file of an architectural drawing using a

4   method, said method comprising the steps of:

5   •   reading one or more raw CAD files containing at least drawing

6   elements forming one or more architectural assets;

7   •   parsing and labeling the one or more assets found within the

8   one or more raw CAD files which have correspondence to labeled assets stored in

9   an architectural assets database;

10   •   retrieving compliance criteria from at least one compliance

11   criteria database in which are stored compliance criteria corresponding to one or

12   more of the labeled assets;

13   •   retrieving preferred criteria from at least one preferred criteria

14   database in which are stored preferred criteria corresponding to one or more of the

15   labeled assets;

16   •   applying the compliance and preferred criteria to the labeled

17   assets for establishing detailed engineering specifications;

18   •   generating detailed drawing elements corresponding to the

19   detailed engineering specifications; and

20   •   writing at least the generated detailed drawing elements to one

21   or more output CAD files.

22